CLAIMS

1. A method of determining the position of a mobile communications device within a cellular network, the method comprising the steps of:

transmitting data to the mobile communication device from the cellular network, said data identifying to the mobile communication device a list of radio channels corresponding to respective radio transmitters of the cellular network, said list being determined on the basis of the approximate position of the mobile communication device; and

causing the mobile communication device to listen on said identified channels, or on other channels excluding said identified channels, and to determine from information transmitted over the listened to channels data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels; and

determining the position of the mobile communication device using said determined data values.

2. A method according to claim 1, wherein said transmitters are provided by respective base transceiver stations and the data transmitted to the mobile device identifying the list of radio channels comprises a set of radio channel numbers known to the mobile device.

3. A method according to claim 1 or 2, wherein said data values are time relationship values related to the transmission delay times between the mobile device and the radio transmitters transmitting the listened to channels.

4. A method according to claim 3, wherein the time relationship values are Observed Time Differences (OTD) each being the difference between the transmission delay time between the mobile device and one of the radio transmitters transmitting the listened to channels, and the transmission delay time between the mobile device and a radio transmitter of a base transceiver station currently serving the mobile device.

5. A method according to claim 3 or 4, wherein said time relationship values are sent by the mobile communications device to the network where said determining step is carried out.

6. A method according to any one of the preceding claims, wherein the list of radio channels identified to the mobile device contains those channels which the mobile device should try to listen to in order to obtain said data values from which the position of the mobile device can be determined.

Sub R2

7. Apparatus for determining the position of a mobile communications device within a cellular network, the apparatus comprising:

a base transceiver station for transmitting data to the mobile communication device from the cellular network, said data identifying to the mobile communication device a list of radio channels corresponding to respective radio transmitters of the cellular network, said list being determined on the basis of the approximate position of the mobile communication device;

a radio receiver at the mobile communication device for listening on said identified channels, or on other channels excluding said identified channels;

first signal processing means coupled to said radio receiver for determining from information transmitted over the listened to channels data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels; and

second signal processing means for computing the position of the mobile communication device using said determined data values.

8. A mobile communications device comprising:

a radio receiver for receiving data transmitted from a serving base transceiver station of a cellular radio network, said data identifying to the mobile communication device a list of radio channels corresponding to respective radio transmitters of the cellular network, and said list being determined on the basis of the approximate position of the mobile communication device, and said radio receiver being arranged to listen on said identified channels, or on other channels excluding said identified channels;

first signal processing means coupled to said radio receiver for determining from information transmitted over the listened to channels data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels; and

a radio transmitter for transmitting said determined data values to said serving base transceiver station.